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Sheet

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

of

Complete if Known Application Number 10/770,270 Filing Date February 2, 2004 First Named Inventor Steven A. Kunsman 😗 Art Unit 2125 **Examiner Name** Paul L. Rodriguez Attorney Docket Number E20000120

Examiner	Cite	Document Number	U. S. PATENT Publication Date	Name of Patentee or	Pages, Columns, Lines, Where
Examiner Initials*	No.	Document Number	MM-DD-YYYY	Applicant of Cited Document	Relevant Passages or Relevan
innera	140.	Number-Kind Code ² (4 known)			Figures Appear
ゆス		US-/4,466,071		Russell, Jr. 1	
Bos		US- 4,871,971	10-03-1989	Jerrings et al.	
ma		us- 5,475,556	12-12-1995	Yoon et al.	
PR		US- 5,512,832	04-30-1996	Russell et al.	
pm		us 5,602,709	02-11-1997	Al-Dabbagh	
BDR.		US- 5,724,247	03-03-1998	Dalstein	
BIL		us- 4,297,738	10-27-1981	Lee	
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		FORE	GN PATENT DOCU	MENTS		
Examiner Initials*	Cite No.1	Foreign Patent Document	Publication Oate	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages	T6
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Substitute	iorioim 1445/F10			Application Number	10/770,270	
INFO	RMATION	DIS	CLOSURE	Filing Date	February 2, 2004	
STATEMENT BY APPLICANT			PPLICANT	First Named Inventor	Steven A. Kunsman	
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Sheet	2	of	5	Attorney Docket Number	E20000120	

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Examiner Initials*	Cite No.1	NON PATENT LITERATURE DOCUMENTS Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, senal, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
M		BUCHHOLZ et al; High Impedance Fault Detection Device Tester; Journal IEEE Transactions on Power Delivery, Vol. 11, No. 1, January 1996, Powertech Labs Inc., Surrey, B.C. Canada V3W 7R7	
pol		RUSSELL et al; Arcing Fault Detection for Distribution Feeders: Security, Journal IEEE Transactions on Power Delivery, Vol. 10, No. 2, April 1995; Power System Automation Lab, Texas	
PM		EBRON et al; A Neural Network Approach To The Detection of Incipient Faults on Power Distribution Feeders; IEEE Transaction Power Delivery, Vol. 5, No. 2, April 1990; Electric Power	ns
		Research Center, Raleigh, NC	
Pal		RUSSELL et al; An Arcing Fault Detection Technique Using Low Frequency Current Components - Performance Evaluation Using Recorded Field Data; Journal IEEE Transactions on Power Deliver	y_
		Vol. 3, No. 4, October 1988; Texas A&M University, College Station, Texas	
ON		BENNER et al; Practical High Impedance Fault Detection for Distribution Feeders; IEEE Transactions on Power Delivery, Vol. 33, No. 3, pp.635-640, May/June 1997; Power System Automation	
		Laboratory, College Station, Texas	
Œ		LAZKANO et al; A New Approach To High Impedance Fault Detection Using Wavelet Packet Analysis; Proceedings of Ninth International Conference on Harmonics & Quality of Power,	
		Vol. 3, pp. 1005-1010, 2000;	

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INFO	ORMATION	I DIS	CLOSURE	Filing Date	February 2, 2004		
STATEMENT BY APPLICANT			PPLICANT	First Named Inventor	Steven A. Kunsman		
	(the second short			Art Unit	2125		
	(Use as many sheets as necessary)			Examiner Name	Paul L. Rodriguez		
Sheet	3	of	5	Attorney Docket Number	E20000120		

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
M		RUSSELL et al; Performance of high-impedance fault detection algorithms in long-term field trials; Elsevier Science S.A. Power System Automation Laboratory, College Station, TX 77843	
M		C.J. KIM et al; Classification of Fualts and Switching Events by Inductive Reasoning and Expert System Methodology; Journal IEEE Transations on Power Delivery, Vol. 4, No. 3, July 1989;	
	-	Texas A&M University; College Station, Texas 77843	
pM		A.M. SHARAF et al; A Third Harmonic Sequence Ann Based Detection Scheme For High Impedance Faults; Canadian Conference on Electrical and Computer Engineering; University of New Brunswic Canada	
m		J.T. Tengdin et al; Application of High Impedance Fault Detectors; A Summary of the Panel Session Held at the 1995 IEEE PES Summer Meeting	
on		M. AL-DABBAGH et al; Neural Networks Based Algorithm For Detecting High Impedance Faults on Power Distribution Lines; 1999 IEEE; Department of Electrical and Communication Engineer: Papua, New Guinea	ng:
m		L.A. SNIDER et al; The Artificial Neural Networks Based Relay Algorithm For Distribution System High Impedance Fault Detection; Journal from Proceedings of the 4th International	
		Conference on Advances in Power System Control, Operation and Management, APSCOM-97, Hong Kong, November 1997.	

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STATEMENT BY APPLICANT			PPLICANT	First Named Inventor	Steven A. Kunsman	
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Sheet	4	of	5	Attorney Docket Number	E20000120	

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Pol		R. PATTERSON et al; A Microprocessor-based Digital Feeder Monitor with High-Impedance Fault Detection; Forty-Seventh Annual Conference for Protective Relay Engineers; GE Protection	
		and Control, Malvern, PA; Dept. of Electrical Engineering Texas A&M University, College Station, Texas	
one	-	C.J. KIM et al; A Parameter-Based Process For Selecting High Impedance Fault Detection Techniques Using Decision Making Under Incomplete Knowledge: Journal IEEE Transaction on Power	
		Delivery, Vol. 5, No. 3, July 1990; Texas A&M University, College Station, Texas 77843	
<i>O</i> m		C.J. KIM et al; A Learning Method For Use In Intelligent Computer Relays For High Impedance Faults; Journal IEEE	
		Transactions on Power Delivery, Vol. 6, No. 1, January 1991; Texas A&M University, College Station, Texas 77843	
sor		C.J. KIM et al; High-impedance fault detection system using an adaptive element model; Journal IEEE Proceedings-C, Vol. 140, No. 2, March 1993; Department of Electrical Engineering. Texas	
		A&M University, College Station, Texas 77843	
PM		RON PATTERSON; Signatures and Software Find High-Impedance Faults; IEEE Computer Applications in Power, July 1995	
am		CARL L. BENNER et al; Practical High-Impedance Fault Detection on Distribution Feeders; IEEE Transactions on Industry Applications, Vol. 33, No. 3, May/June 1997	

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Parl		DAVID C. YU et al; An Adaptive High and Low Impedance Fault Detection Method; Journal IEEE Transactions on Power Delivery, Vol. 9, No. 4, October 1994; University of Wisconsin-Milwaukee	
		Milwaukee, WI 53201; Puget Sound Power & Light Company, Bellevue, WA 98004	
m		B. MICHAEL AUCOIN et al; High Impedance Fault Detection Implementation Issues; Journal IEEE Transactions on Power Delivery, Vol. 11, No. 1, January 1996; Texas A&M University,	
		College Station, TX 77843; Rochester Gas and Electric, Rochester, NY 14649	

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